



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,968	05/14/2001	Futoshi Sakaguchi	2282-0140P	3457

2292 7590 03/31/2003

BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

GRIFFIN, WALTER DEAN

ART UNIT	PAPER NUMBER
----------	--------------

1764

DATE MAILED: 03/31/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/763,968

Applicant(s)

SAKAGUCHI ET AL.

Examiner

Walter D. Griffin

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4, 8-11, 15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-11, 15 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1764

## DETAILED ACTION

### *Response to Amendment*

The rejections under 35 U.S.C. § 112 as described in paper no. 10 have been withdrawn in view of the amendment filed on February 24, 2003 and remarks contained therein.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 8-11, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Apelian et al. (5,062,943).

The Apelian reference discloses a process for hydrocracking a hydrocarbon feed such as a gas oil. The process comprises an initial phase in which the hydrocracking catalyst is contacted with an organic nitrogen-containing compound in solution. Specifically disclosed nitrogen-containing compounds include pyridine and quinoline. These compounds have boiling points higher than 200°C. The amount of nitrogen compound that is used is in the range of 1 ppmw to 1.0 wt%. This initial phase is equivalent to the claimed pre-contacting or contacting of the catalyst with the nitrogen compound. The contacting of the catalyst with the nitrogen-containing compound would result in the nitrogen compound being adsorbed onto the catalyst in amounts within the claimed range. In a second phase of the process, the addition of the nitrogen compound is terminated or reduced to a lower level and the hydrocracking reaction is carried out. The reduction of the addition of the nitrogen compound to a lower level is equivalent to the claimed addition of a catalyst deactivation inhibitor. See col. 3, line 48 through col. 5, line 22 and col. 5, line 67 through col. 6, line 25.

The Apelian reference does not disclose that the nitrogen compound has a boiling point that is lower than a 50% distillation temperature of the feed oil, does not disclose that the petroleum fraction containing an organic nitrogen compound has a 95% distillation temperature that is lower than the 50% distillation temperature of the feed oil as in claim 2, and does not disclose the amount of nitrogen in the catalyst as in claims 6/1 or 7/2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Apelian by using a nitrogen compound that

has a boiling point that is lower than a 50% distillation temperature of the feed oil because the nitrogen compounds disclosed by Apelian are the same as disclosed by applicants in their specification and because the feeds disclosed by Apelian boil over wide ranges. Therefore, there would be an expectation of success when using a nitrogen compound that has a boiling point that is lower than a 50% distillation temperature of the feed oil in the process of Apelian.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Apelian by using a petroleum fraction containing an organic nitrogen compound that has a 95% distillation temperature that is lower than the 50% distillation temperature of the feed oil because the disclosure of a specific solvent (i.e., toluene) combined with the disclosure that the feeds to the hydrocracking process can boil over wide ranges and are not particularly limited results in the expectation that using the claimed petroleum fraction would produce a successful outcome to the process.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Apelian by utilizing nitrogen amounts in the catalyst as claimed because Apelian discloses that the amount used is a result effective variable and should be selected by experiment prior to use.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Apelian (5,062,943) as applied to claims 1 and 2 above, and further in view of FR 2,668,951.

As discussed above, the Apelian reference does not disclose sulfiding the catalyst either simultaneously with the contacting of the catalyst with the nitrogen compound as in claim 3 or while contacting the catalyst with the petroleum fraction as in claim 4.

The FR 2668951 reference discloses that a hydrocracking catalyst can be activated by simultaneously sulfiding the catalyst and contacting the catalyst with a nitrogen compound. The catalyst may also be sulfided by contacting the catalyst in-situ with a petroleum fraction that contains the nitrogen compound. See the entire document including the translation.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Apelian by sulfiding as disclosed by the FR 2668951 reference because sulfiding is an integral part of the start-up procedure and results in an activated catalyst.

#### ***Response to Arguments***

The argument that there is no motivation in the Apelian reference to select a particular nitrogen-containing compound that has a boiling point of greater than 200°C is not persuasive. The Apelian reference specifically discloses that pyridine and quinoline can be used in the process. These compounds have boiling points higher than 200°C. The examiner maintains that this explicit disclosure clearly discloses the use of nitrogen- containing compounds that have boiling points of greater than 200°C.

The argument that the Apelian reference does not disclose or suggest the amount of nitrogen-containing compounds recited in claims 1 and 2 is not persuasive. The Apelian reference discloses in column 5, lines 17-22 that the amount of the nitrogen-containing compound used will generally be in the range of 1 ppmw to 1.0 weight percent. This disclosed range overlaps the claimed range and therefore discloses values within the claimed range.

The argument that the Apelian reference does not disclose or suggest that the use of the claimed nitrogen-containing compounds provides for an unexpected initial deactivation rate is not persuasive. Since Apelian discloses compounds such as those claimed, the Apelian process would necessarily provide similar deactivation rates.

The argument that the platinum or palladium catalysts disclosed by the Apelian reference would not require sulfurization is not persuasive. Apelian discloses that base metal catalysts may also be used. See column 3, line 64 through column 4, line 6. As shown in FR 2,668,951, these base metal catalysts can be activated by sulfurization.

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 1764

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is 703-305-3774. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Walter D. Griffin  
Primary Examiner  
Art Unit 1764

WG  
March 24, 2003